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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,053	12/12/2003	Gopal Pingali	YOR920030551US1	2500
29683	7590	01/12/2005	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			SEVER, ANDREW T	
			ART UNIT	PAPER NUMBER
			2851	
DATE MAILED: 01/12/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,053

Applicant(s)

PINGALI ET AL.

Examiner

Andrew T Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 31-40 is/are rejected.
- 7) ☒ Claim(s) 30 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/7/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 already claims that the mechanism is a rotational mechanism and a translational mechanism.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-29, and 31-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinhanez (US 6,431,711) in view of Connelly et al. (US 2003/0202156.)

Pinhanez teaches in figure 8 or in a slightly different embodiment of figure 9, a positioning system comprising:

At least one mount (216) for mounting a projection unit (900), the projection unit comprises of at least a projector (211) for projecting a distorted image wherein the at least one mount includes a mechanism for providing rotational movement (215), which

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combined with projecting a pre-distorted image produces a substantially undistorted image on a surface (see column 2 lines 5-14). Pinhanez does not teach the mount is coupled to a mechanism for providing translational movement for adjusting the position of the projection unit.

Connelly teaches in figure 1a, a mechanism for providing translational movement for adjusting the position of a projection unit mounted on it. Connelley teaches in paragraphs 9 and 10 that such a translational movement system allows for the use of multiple projectors in the same location and also more versatility in positioning the projector allowing for less keystone distortion. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the projector of Pinhanez on the mechanism of Connelley, which allows translational movement.

With regards to applicant's claim 2:

The positioning system includes a redirection device (see part 214 of Pinhanez).

With regards to applicant's claim 3:

The redirecting device is a mirror.

With regards to applicant's claim 5:

805 is a controller which includes functions for generating the distorted image.

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With regards to applicant's claim 6:

The controller is either remote or integrated with the projection unit (see Pinhanez column 8 lines 13-18.)

With regards to applicant's claims 7-12

Pinhanez teaches a user interaction system which includes detecting the user's interactions through the use of a camera (820 or 720). See also column 2 lines 15-25 as well as column 8 lines 5-2. (With regards to applicant's claim 8, Pinhanez teaches a variety of uses such as at column 15 lines 60-61 bring up diagrams and one of ordinary skill in the art would also expect it to include such things are starting playing of a video on a remote video player.)

With regards to applicant's claim 13:

Pinhanez teaches using voice in column 12 lines 39-45.

With regards to applicant's claim 14:

See above.

With regards to applicant's claim 15:

Connelly teaches a rail system, which is best, suited for supporting a heavy projector and accordingly it would be obvious to one of ordinary skill in the art at the time the invention was made to use such a system.

With regards to applicant's claim 16:

The mechanism of Pinhanez in view of Connelly would be adapted for attaching to the fixed support of Pinhanez.

With regards to applicant's claim 17:

Pinhanez teaches in figure 8 a positioning controller (part of which is 275).

With regards to applicant's claim 18:

Pinhanez teaches that the controller uses geometric model information in column 6 lines 35-61 specifically 47-49.

With regards to applicant's claim 19:

The camera of Pinhanez is a tracking and sensing piece of equipment.

With regards to applicant's claims 20 and 22:

Connelly teaches in paragraph 11, which teaches the first projector can move in both a first and second direction.

With regards to applicant's claims 21 and 23:

As previously stated Connelly teaches two degrees of freedom, while Pinhanez's tilting redirection device allows for a third degree of freedom.

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With regards to applicant's claim 24:

Pinhanez teaches in column 9 lines 1-34 the method of using the projection system above, when a user request that the surface to be projected upon be changed (either by changing the surface or otherwise), which includes moving the pan and tilt of the redirection device, in view of Connelly this would obviously also include transnational movement if necessary.

With regards to applicant's claims 25, 26, and 28:

The entering of commands is taught in Pinhanez to be done either manually or through interacting with the projection system (See column 3 line 62 through column 4 line 8.)

With regards to applicant's claim 27:

The purpose of Connelly's rail positioning system/mechanism is to avoid occlusion, accordingly it would be obvious to one of ordinary skill in the art in using the method taught by Pinhanez in view of Connelly to use the system to provide an image substantially free from occlusion.

With regards to applicant's claim 29:

Connelly teaches the system can be used with two projectors.

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With regards to applicant's claim 31:

Pinhanez teaches in column 10 lines 5-9 that the parameters for multiple areas/surfaces can be stored in memory for later recall.

With regards to applicant's claims 32 and 33:

See above.

With regards to applicant's claim 34:

See column 4 lines 21-39 of Pinhanez and above.

With regards to applicant's claims 35-40:

See above.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pinhanez in view of Connelly as applied to claims 1-3, 5-29, and 31-40 above, and further in view of Machtig (US 5,278,596.)

As described in more detail above, Pinhanez in view of Connelly teaches a positioning system for a projector which among other things includes a redirection device, however Pinhanez in view of Connelly do not teaches that the redirection device comprises of at least one of a lens, and optical fiber and a prism.

Machtig teaches in figures 1 and 3 a projection system, which includes the use of optical fiber, and lens for redirection projected light. Machtig teaches in column 1 line

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64 through column 2 lines 18, that such a system allows for the light source to be kept separate from the heat sensitive components and it also allows for mechanism allowing the projector to be moveable without sacrificing brightness of the projected image.

Accordingly since it would be desirable especially in many of the environments proposed by Pinhanez to use as bright of a projector as possible, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include optical fiber to channel light from a stationary light source to the redirection device.

Allowable Subject Matter

5. Claim 30 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: Claim 30 claims that the projection unit produces a first portion of the distorted image and at least another projection unit produces another portion of the distorted image, although such systems are well known (see for example US 5,902,030 to Blanchard), they are not in combination with the subject matter of claims 29 and 24; specifically that the at least one projector moves. Since Connelly makes no suggestion of using both projectors at the same time, it would not be obvious to modify Pinhanez in view of Connelly with prior art such as Blanchard

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to obtain the claimed invention and accordingly claims 30 would be allowable if re-written in independent form including all of the limitations of the intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,520,647 to Raskar which teaches an electronic distortion correction.

US 6,802,611 to Chu et al. which teaches an interactive projection system in figure 200.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS

A handwritten signature in black ink, appearing to read 'Judy Nguyen', is positioned above the printed name.

JUDY NGUYEN
SUPERVISORY PATENT EXAMINER